

SEQUENCE LISTING

<110> Allan, Bernard
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 Metabolex, Inc.

<120> Methods of Diagnosing & Treating Diabetes and Insulin
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<130> 016325-013600US

<140> US 10/516,780
 <141> 2004-12-03

<150> US 60/386,521
 <151> 2002-06-05

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 <151> 2002-06-06

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<150> US 60/387,301
 <151> 2002-06-07

<150> WO PCT/US03/18046
 <151> 2003-06-05

<160> 46

<170> PatentIn Ver. 2.1

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catttcctga tctagcactc ctcaagactt tgatccttgg aaaccgtgtg tccagcattg 1860
aagagaactg caactgaatg                                     1880

```

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<210> 8
<211> 553
<212> PRT
<213> Homo sapiens

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```

<220>
<223> human p21 activated kinase 1B (PAK1B) splice
variant

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<400> 8
Met Ser Asn Asn Gly Leu Asp Ile Gln Asp Lys Pro Pro Ala Pro Pro
 1             5             10             15

Met Arg Asn Thr Ser Thr Met Ile Gly Val Gly Ser Lys Asp Ala Gly
          20             25             30

Thr Leu Asn His Gly Ser Lys Pro Leu Pro Pro Asn Pro Glu Glu Lys
 35             40             45

Lys Lys Lys Asp Arg Phe Tyr Arg Ser Ile Leu Pro Gly Asp Lys Thr
 50             55             60

Asn Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp
 65             70             75             80

```

Phe	Glu	His	Thr	Ile	His	Val	Gly	Phe	Asp	Ala	Val	Thr	Gly	Glu	Phe	
				85					90					95		
Thr	Gly	Met	Pro	Glu	Gln	Trp	Ala	Arg	Leu	Leu	Gln	Thr	Ser	Asn	Ile	
			100					105						110		
Thr	Lys	Ser	Glu	Gln	Lys	Lys	Asn	Pro	Gln	Ala	Val	Leu	Asp	Val	Leu	
		115					120						125			
Glu	Phe	Tyr	Asn	Ser	Lys	Lys	Thr	Ser	Asn	Ser	Gln	Lys	Tyr	Met	Ser	
	130					135					140					
Phe	Thr	Asp	Lys	Ser	Ala	Glu	Asp	Tyr	Asn	Ser	Ser	Asn	Ala	Leu	Asn	
145					150					155					160	
Val	Lys	Ala	Val	Ser	Glu	Thr	Pro	Ala	Val	Pro	Pro	Val	Ser	Glu	Asp	
				165					170					175		
Glu	Asp	Asp	Asp	Asp	Asp	Asp	Ala	Thr	Pro	Pro	Pro	Val	Ile	Ala	Pro	
			180					185					190			
Arg	Pro	Glu	His	Thr	Lys	Ser	Val	Tyr	Thr	Arg	Ser	Val	Ile	Glu	Pro	
		195					200					205				
Leu	Pro	Val	Thr	Pro	Thr	Arg	Asp	Val	Ala	Thr	Ser	Pro	Ile	Ser	Pro	
	210					215						220				
Thr	Glu	Asn	Asn	Thr	Thr	Pro	Pro	Asp	Ala	Leu	Thr	Arg	Asn	Thr	Glu	
225					230					235					240	
Lys	Gln	Lys	Lys	Lys	Pro	Lys	Met	Ser	Asp	Glu	Glu	Ile	Leu	Glu	Lys	
				245					250					255		
Leu	Arg	Ser	Ile	Val	Ser	Val	Gly	Asp	Pro	Lys	Lys	Lys	Tyr	Thr	Arg	
			260					265					270			
Phe	Glu	Lys	Ile	Gly	Gln	Gly	Ala	Ser	Gly	Thr	Val	Tyr	Thr	Ala	Met	
		275					280					285				
Asp	Val	Ala	Thr	Gly	Gln	Glu	Val	Ala	Ile	Lys	Gln	Met	Asn	Leu	Gln	
	290					295					300					
Gln	Gln	Pro	Lys	Lys	Glu	Leu	Ile	Ile	Asn	Glu	Ile	Leu	Val	Met	Arg	
305					310					315					320	
Glu	Asn	Lys	Asn	Pro	Asn	Ile	Val	Asn	Tyr	Leu	Asp	Ser	Tyr	Leu	Val	
				325					330					335		
Gly	Asp	Glu	Leu	Trp	Val	Val	Met	Glu	Tyr	Leu	Ala	Gly	Gly	Ser	Leu	
			340					345					350			
Thr	Asp	Val	Val	Thr	Glu	Thr	Cys	Met	Asp	Glu	Gly	Gln	Ile	Ala	Ala	
		355					360					365				
Val	Cys	Arg	Glu	Cys	Leu	Gln	Ala	Leu	Glu	Phe	Leu	His	Ser	Asn	Gln	
	370					375					380					
Val	Ile	His	Arg	Asp	Ile	Lys	Ser	Asp	Asn	Ile	Leu	Leu	Gly	Met	Asp	
385					390					395					400	

Gly Ser Val Lys Leu Thr Asp Phe Gly Phe Cys Ala Gln Ile Thr Pro
 405 410 415
 Glu Gln Ser Lys Arg Ser Thr Met Val Gly Thr Pro Tyr Trp Met Ala
 420 425 430
 Pro Glu Val Val Thr Arg Lys Ala Tyr Gly Pro Lys Val Asp Ile Trp
 435 440 445
 Ser Leu Gly Ile Met Ala Ile Glu Met Ile Glu Gly Glu Pro Pro Tyr
 450 455 460
 Leu Asn Glu Asn Pro Leu Arg Ala Leu Tyr Leu Ile Ala Thr Asn Gly
 465 470 475 480
 Thr Pro Glu Leu Gln Asn Pro Glu Lys Leu Ser Ala Ile Phe Arg Asp
 485 490 495
 Phe Leu Asn Arg Cys Leu Glu Met Asp Val Glu Lys Arg Gly Ser Ala
 500 505 510
 Lys Glu Leu Leu Gln Val Arg Lys Leu Arg Phe Gln Val Phe Ser Asn
 515 520 525
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 530 535 540
 Gln Pro His Ser Thr Asp Cys Cys Ser
 545 550

<210> 9

<211> 1347

<212> DNA

<213> Homo sapiens

<220>

<223> human p21 activated kinase 1B (PAK1B) new splice variant

<400> 9

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 cctccaaacc cagaggagaa gaaaaagaag gaccgatatt accgatccat ttacctgga 180
 gataaaacaa ataaaaagaa agagaaagag cggccagaga tttctctccc ttcagatttt 240
 gaacacacaa ttcattgtcg ttttgatgct gtcacagggg agtttacggg aatgccagag 300
 cagtgggccc gcttgcttca gacatcaaat atcactaagt cggagcagaa gaaaaaccg 360
 caggctgttc tggatgtgtt ggagttttac aactcgaaga agacatccaa cagccagaaa 420
 tacatgagct ttacagataa gtcagctgag gattacaatt cttctaattgc cttgaatgtg 480
 aaggctgtgt ctgagactcc tgcagtgcc aagatttcag aagatgagga tgatgatgat 540
 gatgatgcta ccccaccacc agtgattgct ccacgcccag agcacacaaa atctgtggcc 600
 attaagcaga tgaatcttca gcagcagccc aagaaagagc tgattattaa tgagatcctg 660
 gtcattgagg aaaacaagaa cccaaacatt gtgaattact tggacagtta cctcgtggga 720
 gatgagctgt ggggtgttat ggaatacttg gctggaggct ccttgacaga tgtggtgaca 780
 gaaacttgca tggatgaagg ccaaattgca gctgtgtgcc gtgagtgtct gcaggctctg 840
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 ggaatggatg gctctgtcaa gctaactgac tttggattct gtgcacagat aaccccagag 960
 cagagcaaac ggagcaccat ggtaggaacc ccatactgga tggcaccaga ggttgtgaca 1020
 cgaaaggcct atgggcccac ggttgacatc tgggtccctg gcacatggc catcgaaatg 1080
 attgaagggg agcctccata cctcaatgaa aaccctctga gagccttgta cctcattgcc 1140
 accaatggga cccagaact tcagaaccca gagaagctgt cagctatctt ccgggacttt 1200

```

ctgaaccgct gtctcgggat ggatgtggag aagagagggt cagctaaaga gctgctacag 1260
catcaattcc tgaagattgc caagcccctc tccagcctca ctccactgat tgctgcagct 1320
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<210> 10

<211> 449

<212> PRT

<213> Homo sapiens

<220>

<223> human p21 activated kinase 1B (PAK1B) new splice
variant

<400> 10

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Met Ser Asn Asn Gly Leu Asp Ile Gln Asp Lys Pro Pro Ala Pro Pro
  1              5              10              15

Met Arg Asn Thr Ser Thr Met Ile Gly Ala Gly Ser Lys Asp Ala Gly
          20              25              30

Thr Leu Asn His Gly Ser Lys Pro Leu Pro Pro Asn Pro Glu Glu Lys
          35              40              45

Lys Lys Lys Asp Arg Phe Tyr Arg Ser Ile Leu Pro Gly Asp Lys Thr
          50              55              60

Asn Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp
          65              70              75              80

Phe Glu His Thr Ile His Val Gly Phe Asp Ala Val Thr Gly Glu Phe
          85              90              95

Thr Gly Met Pro Glu Gln Trp Ala Arg Leu Leu Gln Thr Ser Asn Ile
          100             105             110

Thr Lys Ser Glu Gln Lys Lys Asn Pro Gln Ala Val Leu Asp Val Leu
          115             120             125

Glu Phe Tyr Asn Ser Lys Lys Thr Ser Asn Ser Gln Lys Tyr Met Ser
          130             135             140

Phe Thr Asp Lys Ser Ala Glu Asp Tyr Asn Ser Ser Asn Ala Leu Asn
          145             150             155             160

Val Lys Ala Val Ser Glu Thr Pro Ala Val Pro Pro Val Ser Glu Asp
          165             170             175

Glu Asp Asp Asp Asp Asp Ala Thr Pro Pro Pro Val Ile Ala Pro
          180             185             190

Arg Pro Glu His Thr Lys Ser Val Ala Ile Lys Gln Met Asn Leu Gln
          195             200             205

Gln Gln Pro Lys Lys Glu Leu Ile Ile Asn Glu Ile Leu Val Met Arg
          210             215             220

Glu Asn Lys Asn Pro Asn Ile Val Asn Tyr Leu Asp Ser Tyr Leu Val
          225             230             235             240

```

Gly Asp Glu Leu Trp Val Val Met Glu Tyr Leu Ala Gly Gly Ser Leu
 245 250 255
 Thr Asp Val Val Thr Glu Thr Cys Met Asp Glu Gly Gln Ile Ala Ala
 260 265 270
 Val Cys Arg Glu Cys Leu Gln Ala Leu Glu Phe Leu His Ser Asn Gln
 275 280 285
 Val Ile His Arg Asp Ile Lys Ser Asp Asn Ile Leu Leu Gly Met Asp
 290 295 300
 Gly Ser Val Lys Leu Thr Asp Phe Gly Phe Cys Ala Gln Ile Thr Pro
 305 310 315 320
 Glu Gln Ser Lys Arg Ser Thr Met Val Gly Thr Pro Tyr Trp Met Ala
 325 330 335
 Pro Glu Val Val Thr Arg Lys Ala Tyr Gly Pro Lys Val Asp Ile Trp
 340 345 350
 Ser Leu Gly Ile Met Ala Ile Glu Met Ile Glu Gly Glu Pro Pro Tyr
 355 360 365
 Leu Asn Glu Asn Pro Leu Arg Ala Leu Tyr Leu Ile Ala Thr Asn Gly
 370 375 380
 Thr Pro Glu Leu Gln Asn Pro Glu Lys Leu Ser Ala Ile Phe Arg Asp
 385 390 395 400
 Phe Leu Asn Arg Cys Leu Gly Met Asp Val Glu Lys Arg Gly Ser Ala
 405 410 415
 Lys Glu Leu Leu Gln His Gln Phe Leu Lys Ile Ala Lys Pro Leu Ser
 420 425 430
 Ser Leu Thr Pro Leu Ile Ala Ala Ala Lys Glu Ala Thr Lys Asn Asn
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His

<210> 11

<211> 1977

<212> DNA

<213> Mus musculus

<220>

<223> mouse p21 (CDKN1A)-activated kinase 1B (PAK1B)
cDNA

<220>

<221> CDS

<222> (190)..(1827)

<223> PAK1B

<400> 11

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 cgagactcac agatacaca gatacagccc cgcacccacc gccagtagct gctgctgctg 180
 gtgggtgacaa tgtcaaataa cggcgtagac atccaggaca aacccccagc ccctccgatg 240

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agaaacacca gcactatgat tggagccggc agcaaagaca ctggaaccct aaaccacggc 300
tccaaacctc tgctccaaa cccagaggag aagaaaaaga aggaccggtt ttatcgatcc 360
atcttacctg gagataaaac aaataaaaag agggagaagg agcgaccaga gatttctctt 420
ccttcagatt ttgagcatac aattcatggt gggtttgatg ctgtcacagg ggagtttacg 480
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aatagtaaga agtacatgag ttttacagat aagtcagctg aagattataa ttcttctaac 660
actttgaatg tgaagactgt gtctgagacc ccagcagtac caccagtgtc agaagatgat 720
gaagatgatg atgacgatgc taccacacct ccagtgattg ctccacgccc agaacacaca 780
aaatctgtat atacacgatc tgtgattgaa ccacttctctg ttactccaac tcgggatgtg 840
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catcagttcc tgaagattgc caagcccctc tctagcctga ctccactgat gcatgctgca 1800
aaagaggcaa ccaagaacaa tcaactgaaac catgctcatc ccagcctcat gtgccaagcc 1860
ttctatgaaa taaacacttg tttcggaac tccgacacct catgtcctct tctcctttcc 1920
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<210> 12

<211> 545

<212> PRT

<213> Mus musculus

<220>

<223> mouse p21 (CDKN1A)-activated kinase 1B (PAK1B)

<400> 12

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Met Ser Asn Asn Gly Val Asp Ile Gln Asp Lys Pro Pro Ala Pro Pro
  1                      5                      10                      15

```

```

Met Arg Asn Thr Ser Thr Met Ile Gly Ala Gly Ser Lys Asp Thr Gly
          20                      25                      30

```

```

Thr Leu Asn His Gly Ser Lys Pro Leu Pro Pro Asn Pro Glu Glu Lys
  35                      40                      45

```

```

Lys Lys Lys Asp Arg Phe Tyr Arg Ser Ile Leu Pro Gly Asp Lys Thr
  50                      55                      60

```

```

Asn Lys Lys Arg Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp
  65                      70                      75                      80

```

```

Phe Glu His Thr Ile His Val Gly Phe Asp Ala Val Thr Gly Glu Phe
          85                      90                      95

```

```

Thr Gly Met Pro Glu Gln Trp Ala Arg Leu Leu Gln Thr Ser Asn Ile
  100                      105                      110

```

Thr	Lys	Ser	Glu	Gln	Lys	Lys	Asn	Pro	Gln	Ala	Val	Leu	Asp	Val	Leu		
		115					120					125					
Glu	Phe	Tyr	Asn	Ser	Lys	Lys	Thr	Ser	Asn	Ser	Lys	Lys	Tyr	Met	Ser		
	130					135					140						
Phe	Thr	Asp	Lys	Ser	Ala	Glu	Asp	Tyr	Asn	Ser	Ser	Asn	Thr	Leu	Asn		
145					150					155					160		
Val	Lys	Thr	Val	Ser	Glu	Thr	Pro	Ala	Val	Pro	Pro	Val	Ser	Glu	Asp		
				165					170					175			
Asp	Glu	Asp	Asp	Asp	Asp	Asp	Ala	Thr	Pro	Pro	Pro	Val	Ile	Ala	Pro		
			180					185					190				
Arg	Pro	Glu	His	Thr	Lys	Ser	Val	Tyr	Thr	Arg	Ser	Val	Ile	Glu	Pro		
		195					200					205					
Leu	Pro	Val	Thr	Pro	Thr	Arg	Asp	Val	Ala	Thr	Ser	Pro	Ile	Ser	Pro		
	210					215					220						
Thr	Glu	Asn	Asn	Thr	Thr	Pro	Pro	Asp	Ala	Leu	Thr	Arg	Asn	Thr	Glu		
225					230					235					240		
Lys	Gln	Lys	Lys	Lys	Pro	Lys	Met	Ser	Asp	Glu	Glu	Ile	Leu	Glu	Lys		
				245					250					255			
Leu	Arg	Ser	Ile	Val	Ser	Val	Gly	Asp	Pro	Lys	Lys	Lys	Tyr	Thr	Pro		
			260					265					270				
Phe	Glu	Lys	Ile	Gly	Gln	Gly	Ala	Ser	Gly	Thr	Val	Tyr	Thr	Ala	Met		
	275						280					285					
Asp	Val	Ala	Thr	Gly	Gln	Glu	Val	Ala	Ile	Lys	Gln	Met	Asn	Leu	Gln		
	290					295					300						
Gln	Gln	Pro	Lys	Lys	Glu	Leu	Ile	Ile	Asn	Glu	Ile	Leu	Val	Met	Arg		
305					310					315				320			
Glu	Asn	Lys	Asn	Pro	Asn	Ile	Val	Asn	Tyr	Leu	Asp	Ser	Tyr	Leu	Val		
				325					330					335			
Gly	Asp	Glu	Leu	Trp	Val	Val	Met	Glu	Tyr	Leu	Ala	Gly	Gly	Ser	Leu		
			340					345					350				
Thr	Asp	Val	Val	Thr	Glu	Thr	Cys	Met	Asp	Glu	Gly	Gln	Ile	Ala	Ala		
		355					360					365					
Val	Cys	Arg	Glu	Cys	Leu	Gln	Ala	Leu	Glu	Phe	Leu	His	Ser	Asn	Gln		
	370					375					380						
Val	Ile	His	Arg	Asp	Ile	Lys	Ser	Asp	Asn	Ile	Leu	Leu	Gly	Met	Asp		
385					390					395				400			
Gly	Ser	Val	Lys	Leu	Thr	Asp	Phe	Gly	Phe	Cys	Ala	Gln	Ile	Thr	Pro		
				405					410					415			
Glu	Gln	Ser	Lys	Arg	Ser	Thr	Met	Val	Gly	Thr	Pro	Tyr	Trp	Met	Ala		
			420					425					430				

Pro Glu Val Val Thr Arg Lys Ala Tyr Gly Pro Lys Val Asp Ile Trp
435 440 445

Ser Leu Gly Ile Met Ala Ile Glu Met Ile Glu Gly Glu Pro Pro Tyr
450 455 460

Leu Asn Glu Asn Pro Leu Arg Ala Leu Tyr Leu Ile Ala Thr Asn Gly
465 470 475 480

Thr Pro Glu Leu Gln Asn Pro Glu Lys Leu Ser Ala Ile Phe Arg Asp
485 490 495

Phe Leu Gln Cys Cys Leu Glu Met Asp Val Glu Lys Arg Gly Ser Ala
500 505 510

Lys Glu Leu Leu Gln His Gln Phe Leu Lys Ile Ala Lys Pro Leu Ser
515 520 525

Ser Leu Thr Pro Leu Met His Ala Ala Lys Glu Ala Thr Lys Asn Asn
530 535 540

His
545

<210> 13
<211> 2539
<212> DNA
<213> Rattus norvegicus

<220>
<223> rat p21 (CDKN1A)-activated kinase 1B (PAK1B) cDNA

<220>
<221> CDS
<222> (389)..(2023)
<223> PAK1B

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cttgtttccc tgaaccac 2539

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<210> 14
<211> 544
<212> PRT
<213> Rattus norvegicus

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<220>
<223> rat p21 (CDKN1A)-activated kinase 1B (PAK1B)

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<400> 14
Met Ser Asn Asn Gly Leu Asp Val Gln Asp Lys Pro Pro Ala Pro Pro
  1             5             10             15

Met Arg Asn Thr Ser Thr Met Ile Gly Ala Gly Ser Lys Asp Pro Gly
          20             25             30

Thr Leu Asn His Gly Ser Lys Pro Leu Pro Pro Asn Pro Glu Glu Lys
  35             40             45

Lys Lys Lys Asp Arg Phe Tyr Arg Ser Ile Leu Ala Gly Asp Lys Thr
  50             55             60

Asn Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp
  65             70             75             80

Phe Glu His Thr Ile His Val Gly Phe Asp Ala Val Thr Gly Glu Phe
          85             90             95

Thr Gly Met Pro Glu Gln Trp Ala Arg Leu Leu Gln Thr Ser Asn Ile
  100            105            110

Thr Lys Ser Glu Gln Lys Lys Asn Pro Gln Ala Val Leu Asp Val Leu
  115            120            125

Glu Phe Tyr Asn Ser Lys Lys Thr Ser Asn Ser Gln Lys Tyr Met Ser
  130            135            140

Phe Thr Asp Lys Ser Ala Glu Asp Tyr Asn Ser Ser Asn Thr Leu Asn
  145            150            155            160

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Val	Lys	Thr	Val	Ser	Glu	Thr	Pro	Ala	Val	Pro	Pro	Val	Ser	Glu	Asp	165	170	175
Glu	Asp	Asp	Asp	Asp	Asp	Ala	Thr	Pro	Pro	Pro	Val	Ile	Ala	Pro	Arg	180	185	190
Pro	Glu	His	Thr	Lys	Ser	Val	Tyr	Thr	Arg	Ser	Val	Ile	Glu	Pro	Leu	195	200	205
Pro	Val	Thr	Pro	Thr	Arg	Asp	Val	Ala	Thr	Ser	Pro	Ile	Ser	Pro	Thr	210	215	220
Glu	Asn	Asn	Thr	Thr	Pro	Pro	Asp	Ala	Leu	Thr	Arg	Asn	Thr	Glu	Lys	225	230	235
Gln	Lys	Lys	Lys	Pro	Lys	Met	Ser	Asp	Glu	Glu	Ile	Leu	Glu	Lys	Leu	245	250	255
Arg	Ser	Ile	Val	Ser	Val	Gly	Asp	Pro	Lys	Lys	Lys	Tyr	Thr	Arg	Phe	260	265	270
Glu	Lys	Ile	Gly	Gln	Gly	Ala	Ser	Gly	Thr	Val	Tyr	Thr	Ala	Met	Asp	275	280	285
Val	Ala	Thr	Gly	Gln	Glu	Val	Ala	Ile	Lys	Gln	Met	Asn	Leu	Gln	Gln	290	295	300
Gln	Pro	Lys	Lys	Glu	Leu	Ile	Ile	Asn	Glu	Ile	Leu	Val	Met	Arg	Glu	305	310	315
Asn	Lys	Asn	Pro	Asn	Ile	Val	Asn	Tyr	Leu	Asp	Ser	Tyr	Leu	Val	Gly	325	330	335
Asp	Glu	Leu	Trp	Val	Val	Met	Glu	Tyr	Leu	Ala	Gly	Gly	Ser	Leu	Thr	340	345	350
Asp	Val	Val	Thr	Glu	Thr	Cys	Met	Asp	Glu	Gly	Gln	Ile	Ala	Ala	Val	355	360	365
Cys	Arg	Glu	Cys	Leu	Gln	Ala	Leu	Glu	Phe	Leu	His	Ser	Asn	Gln	Val	370	375	380
Ile	His	Arg	Asp	Ile	Lys	Ser	Asp	Asn	Ile	Leu	Leu	Gly	Met	Asp	Gly	385	390	395
Ser	Val	Lys	Leu	Thr	Asp	Phe	Gly	Phe	Cys	Ala	Gln	Ile	Thr	Pro	Glu	405	410	415
Gln	Ser	Lys	Arg	Ser	Thr	Met	Val	Gly	Thr	Pro	Tyr	Trp	Met	Ala	Pro	420	425	430
Glu	Val	Val	Thr	Arg	Lys	Ala	Tyr	Gly	Pro	Lys	Val	Asp	Ile	Trp	Ser	435	440	445
Leu	Gly	Ile	Met	Ala	Ile	Glu	Met	Ile	Glu	Gly	Glu	Pro	Pro	Tyr	Leu	450	455	460
Asn	Glu	Asn	Pro	Leu	Arg	Ala	Leu	Tyr	Leu	Ile	Ala	Thr	Asn	Gly	Thr	465	470	475

Pro Glu Leu Gln Asn Pro Glu Lys Leu Ser Ala Ile Phe Arg Asp Phe
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Leu Asn Arg Cys Leu Glu Met Asp Val Glu Lys Arg Gly Ser Ala Lys
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<222> (121) .. (1272)
<223> SPUVE

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<212> PRT
<213> Homo sapiens

<220>

<223> human SPUVE serine protease 23

<400> 16

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			20					25					30		
Pro	Ala	Tyr	Arg	Leu	Pro	Val	Val	Leu	Pro	Gln	Ser	Thr	Leu	Asn	Leu
		35					40					45			
Ala	Lys	Pro	Asp	Phe	Gly	Ala	Glu	Ala	Lys	Leu	Glu	Val	Ser	Ser	Ser
	50					55					60				
Cys	Gly	Pro	Gln	Cys	His	Lys	Gly	Thr	Pro	Leu	Pro	Thr	Tyr	Glu	Glu
65					70					75				80	
Ala	Lys	Gln	Tyr	Leu	Ser	Tyr	Glu	Thr	Leu	Tyr	Ala	Asn	Gly	Ser	Arg
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Thr	Glu	Thr	Gln	Val	Gly	Ile	Tyr	Ile	Leu	Ser	Ser	Ser	Gly	Asp	Gly
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Ala	Gln	His	Arg	Asp	Ser	Gly	Ser	Ser	Gly	Lys	Ser	Arg	Arg	Lys	Arg
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Gln	Ile	Tyr	Gly	Tyr	Asp	Ser	Arg	Phe	Ser	Ile	Phe	Gly	Lys	Asp	Phe
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Leu	Leu	Asn	Tyr	Pro	Phe	Ser	Thr	Ser	Val	Lys	Leu	Ser	Thr	Gly	Cys
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Ile	His	Asp	Gly	Lys	Thr	Tyr	Val	Lys	Gly	Thr	Gln	Lys	Leu	Arg	Val
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Gly	Phe	Leu	Lys	Pro	Lys	Phe	Lys	Asp	Gly	Gly	Arg	Gly	Ala	Asn	Asp
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			245					250						255	
Lys	Arg	Lys	Phe	Met	Lys	Ile	Gly	Val	Ser	Pro	Pro	Ala	Lys	Gln	Leu
			260					265					270		
Pro	Gly	Gly	Arg	Ile	His	Phe	Ser	Gly	Tyr	Asp	Asn	Asp	Arg	Pro	Gly
		275					280					285			
Asn	Leu	Val	Tyr	Arg	Phe	Cys	Asp	Val	Lys	Asp	Glu	Thr	Tyr	Asp	Leu
	290					295					300				

Leu Tyr Gln Gln Cys Asp Ala Gln Pro Gly Ala Ser Gly Ser Gly Val
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 Tyr Val Arg Met Trp Lys Arg Gln Gln Gln Lys Trp Glu Arg Lys Ile
 325 330 335
 Ile Gly Ile Phe Ser Gly His Gln Trp Val Asp Met Asn Gly Ser Pro
 340 345 350
 Gln Asp Phe Asn Val Ala Val Arg Ile Thr Pro Leu Lys Tyr Ala Gln
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 370 375 380

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 <212> DNA
 <213> Mus musculus

<220>
 <223> mouse SPUVE serine protease 23 cDNA

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 <223> SPUVE

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 <212> PRT
 <213> Mus musculus

<220>
 <223> mouse SPUVE serine protease 23

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 Ala Tyr Arg Leu Pro Val Val Leu Pro Gln Ser Thr Leu Asn Leu Ala
 35 40 45
 Lys Ala Asp Phe Asp Ala Lys Ala Lys Leu Glu Val Ser Ser Ser Cys
 50 55 60
 Gly Pro Gln Cys His Lys Gly Thr Pro Leu Pro Thr Tyr Glu Glu Ala
 65 70 75 80
 Lys Gln Tyr Leu Ser Tyr Glu Thr Leu Tyr Ala Asn Gly Ser Arg Thr
 85 90 95
 Glu Thr Arg Val Gly Ile Tyr Ile Leu Ser Asn Gly Glu Gly Arg Ala
 100 105 110
 Arg Gly Arg Asp Ser Glu Ala Thr Gly Arg Ser Arg Arg Lys Arg Gln
 115 120 125
 Ile Tyr Gly Tyr Asp Gly Arg Phe Ser Ile Phe Gly Lys Asp Phe Leu
 130 135 140
 Leu Asn Tyr Pro Phe Ser Thr Ser Val Lys Leu Ser Thr Gly Cys Thr
 145 150 155 160
 Gly Thr Leu Val Ala Glu Lys His Val Leu Thr Ala Ala His Cys Ile
 165 170 175
 His Asp Gly Lys Thr Tyr Val Lys Gly Thr Gln Lys Leu Arg Val Gly
 180 185 190
 Phe Leu Lys Pro Lys Tyr Lys Asp Gly Ala Gly Gly Asp Asn Ser Ser
 195 200 205
 Ser Ser Ala Met Pro Asp Lys Met Lys Phe Gln Trp Ile Arg Val Lys
 210 215 220
 Arg Thr His Val Pro Lys Gly Trp Ile Lys Gly Asn Ala Asn Asp Ile
 225 230 235 240
 Gly Met Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Lys Pro His Lys
 245 250 255

Arg Gln Phe Met Lys Ile Gly Val Ser Pro Pro Ala Lys Gln Leu Pro
 260 265 270
 Gly Gly Arg Ile His Phe Ser Gly Tyr Asp Asn Asp Arg Pro Gly Asn
 275 280 285
 Leu Val Tyr Arg Phe Cys Asp Val Lys Asp Glu Thr Tyr Asp Leu Leu
 290 295 300
 Tyr Gln Gln Cys Asp Ala Gln Pro Gly Ala Ser Gly Ser Gly Val Tyr
 305 310 315 320
 Val Arg Met Trp Lys Arg Pro Gln Gln Lys Trp Glu Arg Lys Ile Ile
 325 330 335
 Gly Ile Phe Ser Gly His Gln Trp Val Asp Met Asn Gly Ser Pro Gln
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 Asp Phe Asn Val Ala Val Arg Ile Thr Pro Leu Lys Tyr Ala Gln Ile
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<210> 19

<211> 827

<212> DNA

<213> Homo sapiens

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<223> human similar to natural killer cell transcript 4
(NK4) cDNA

<220>

<221> CDS

<222> (59)..(625)

<223> NK4

<400> 19

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 35 40 45
 Asp Phe Lys Glu Gly Tyr Leu Glu Thr Val Ala Ala Tyr Tyr Glu Glu
 50 55 60
 Gln His Pro Glu Leu Thr Pro Leu Leu Glu Lys Glu Arg Asp Gly Leu
 65 70 75 80
 Arg Cys Arg Gly Asn Arg Ser Pro Val Pro Asp Val Glu Asp Pro Ala
 85 90 95
 Thr Glu Glu Pro Gly Glu Ser Phe Cys Asp Lys Val Met Arg Trp Phe
 100 105 110
 Gln Ala Met Leu Gln Arg Leu Gln Thr Trp Trp His Gly Val Leu Ala
 115 120 125
 Trp Val Lys Glu Lys Val Val Ala Leu Val His Ala Val Gln Ala Leu
 130 135 140
 Trp Lys Gln Phe Gln Ser Phe Cys Cys Ser Leu Ser Glu Leu Phe Met
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 Thr Pro Gln Lys Cys Ser Glu Pro Gln Ser Ser Lys
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 <212> DNA
 <213> Homo sapiens

<220>
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<220>
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 <222> (140)..(1360)
 <223> PCI

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 <211> 406
 <212> PRT
 <213> Homo sapiens

<220>
 <223> human Protein C inhibitor (PCI)

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 35 40 45
 Thr Phe Asp Leu Tyr Arg Ala Leu Ala Ser Ala Ala Pro Ser Gln Asn
 50 55 60
 Ile Phe Phe Ser Pro Val Ser Ile Ser Met Ser Leu Ala Met Leu Ser
 65 70 75 80
 Leu Gly Ala Gly Ser Ser Thr Lys Met Gln Ile Leu Glu Gly Leu Gly
 85 90 95

Leu Asn Leu Gln Lys Ser Ser Glu Lys Glu Leu His Arg Gly Phe Gln
 100 105 110
 Gln Leu Leu Gln Glu Leu Asn Gln Pro Arg Asp Gly Phe Gln Leu Ser
 115 120 125
 Leu Gly Asn Ala Leu Phe Thr Asp Leu Val Val Asp Leu Gln Asp Thr
 130 135 140
 Phe Val Ser Ala Met Lys Thr Leu Tyr Leu Ala Asp Thr Phe Pro Thr
 145 150 155 160
 Asn Phe Arg Asp Ser Ala Gly Ala Met Lys Gln Ile Asn Asp Tyr Val
 165 170 175
 Ala Lys Gln Thr Lys Gly Lys Ile Val Asp Leu Leu Lys Asn Leu Asp
 180 185 190
 Ser Asn Ala Val Val Ile Met Val Asn Tyr Ile Phe Phe Lys Ala Lys
 195 200 205
 Trp Glu Thr Ser Phe Asn His Lys Gly Thr Gln Glu Gln Asp Phe Tyr
 210 215 220
 Val Thr Ser Glu Thr Val Val Arg Val Pro Met Met Ser Arg Glu Asp
 225 230 235 240
 Gln Tyr His Tyr Leu Leu Asp Arg Asn Leu Ser Cys Arg Val Val Gly
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 Val Pro Tyr Gln Gly Asn Ala Thr Ala Leu Phe Ile Leu Pro Ser Glu
 260 265 270
 Gly Lys Met Gln Gln Val Glu Asn Gly Leu Ser Glu Lys Thr Leu Arg
 275 280 285
 Lys Trp Leu Lys Met Phe Lys Lys Arg Gln Leu Glu Leu Tyr Leu Pro
 290 295 300
 Lys Phe Ser Ile Glu Gly Ser Tyr Gln Leu Glu Lys Val Leu Pro Ser
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 Leu Gly Ile Ser Asn Val Phe Thr Ser His Ala Asp Leu Ser Gly Ile
 325 330 335
 Ser Asn His Ser Asn Ile Gln Val Ser Glu Met Val His Lys Ala Val
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 Val Glu Val Asp Glu Ser Gly Thr Arg Ala Ala Ala Ala Thr Gly Thr
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 Ile Phe Thr Phe Arg Ser Ala Arg Leu Asn Ser Gln Arg Leu Val Phe
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 Gly Lys Val Asn Arg Pro
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<210> 23
 <211> 2125
 <212> DNA
 <213> Mus musculus

<220>
 <223> mouse Protein C inhibitor (PCI), serine (or
 cysteine) proteinase inhibitor, clade A, member 5
 (Serpina5) cDNA

<220>
 <221> CDS
 <222> (125) .. (1342)
 <223> PCI

<400> 23
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<210> 24
 <211> 405
 <212> PRT
 <213> Mus musculus

<220>

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(Serpina5)

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Gln	Thr	Lys	Gly	Lys	Ile	Val	Asp	Leu	Ile	Lys	Asp	Leu	Asp	Ser	Thr	
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Pro	Lys	Lys	Thr	Ile	Arg	Val	Pro	Met	Met	Asn	Arg	Glu	Asp	Glu	Tyr	
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Ser	Tyr	Tyr	Leu	Asp	Gln	Asn	Ile	Ser	Cys	Thr	Val	Val	Gly	Ile	Pro	
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<210> 25
 <211> 2035
 <212> DNA
 <213> Rattus norvegicus

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 <223> rat Protein C inhibitor (PCI), serine (or
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 (Serpina5) cDNA

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 <222> (48)..(1268)
 <223> PCI

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<210> 26

<211> 406

<212> PRT

<213> Rattus norvegicus

<220>

<223> rat Protein C inhibitor (PCI), serine (or
cysteine) proteinase inhibitor, clade A, member 5
(Serpina5)

<400> 26

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Glu Ser Ser Val Gly Ala Val Gly Thr Ser Arg Ser Arg Asp Phe Ala
          35             40             45

Phe Arg Leu Tyr Arg Ala Leu Ala Ser Glu Ala Pro Gly Gln Asn Val
          50             55             60

Phe Phe Ser Pro Met Ser Val Ser Met Ser Leu Gly Met Leu Ser Leu
          65             70             75             80

Gly Ser Gly Leu Lys Thr Lys Ala Gln Ile Leu Glu Gly Leu Gly Leu
          85             90             95

Ser Leu Gln Gln Gly Gln Glu Asp Met Leu His Lys Gly Phe Gln Gln
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Leu Leu Gln Gln Phe Ser Gln Pro Ser Asp Gly Leu Gln Leu Ser Leu
          115            120            125

Gly Ser Ala Leu Phe Thr Asp Pro Ala Val His Ile Arg Asp His Phe
          130            135            140

Leu Ser Ala Met Lys Thr Leu Tyr Met Ser Asp Met Phe Ser Thr Asn
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Phe Gly Asn Pro Glu Ser Ala Lys Lys Gln Ile Asn Asp Tyr Val Ala
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 210 215 220
 Thr Pro Lys Lys Thr Ile Gln Val Pro Met Met Asn Arg Glu Asp Ile
 225 230 235 240
 Tyr Ser Tyr Ile Leu Asp Gln Asn Ile Ser Cys Thr Val Val Gly Ile
 245 250 255
 Pro Tyr Gln Gly Asn Thr Phe Ala Leu Phe Ile Leu Pro Ser Glu Gly
 260 265 270
 Lys Met Lys Arg Val Glu Asp Gly Leu Asp Glu Arg Thr Leu Arg Asn
 275 280 285
 Trp Leu Lys Met Phe Thr Lys Arg Gln Leu Asp Leu Tyr Leu Pro Lys
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 Gly Ile Gln Asp Ile Phe Thr Thr His Ala Asp Leu Ser Gly Leu Thr
 325 330 335
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<210> 27

<211> 5073

<212> DNA

<213> Homo sapiens

<220>

<223> human MAST205b novel variant

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<221> CDS

<222> (1)..(5073)

<223> MAST205b novel variant

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Asn Pro Arg Ala His Ser Ser Pro Gly Thr Pro Cys Ser Ser Arg Pro
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Leu Pro Trp Ser Cys Arg Thr Ser Asn Arg Lys Ser Leu Ile Val Thr
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Ser Ser Thr Ser Pro Thr Leu Pro Arg Pro His Ser Pro Leu His Gly
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His Thr Gly Asn Ser Pro Leu Asp Ser Pro Arg Asn Phe Ser Pro Asn
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Ala Pro Ala His Phe Ser Phe Val Pro Ala Arg Ser His Ser His Arg
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Ala Asp Arg Thr Asp Gly Arg Arg Trp Ser Leu Ala Ser Leu Pro Ser
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Ser Gly Tyr Gly Thr Asn Thr Pro Ser Ser Thr Val Ser Ser Ser Cys
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Glu	Glu	Gly	Arg	Gln	Ser	Pro	Ala	Met	Arg	Pro	Arg	Ser	Arg	Ser	Leu	180	185		190
Ser	Pro	Gly	Arg	Ser	Pro	Val	Ser	Phe	Asp	Ser	Glu	Ile	Ile	Met	Met	195	200		205
Asn	His	Val	Tyr	Lys	Glu	Arg	Phe	Pro	Lys	Ala	Thr	Ala	Gln	Met	Glu	210	215		220
Glu	Arg	Leu	Ala	Glu	Phe	Ile	Ser	Ser	Asn	Thr	Pro	Asp	Ser	Val	Leu	225	230	235	240
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Gly	Asn	Lys	Val	Ala	Ile	Ser	Thr	Thr	Pro	Leu	Glu	Asn	Thr	Ser	Ile	1075	1080	1085	
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 1125 1130 1135
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Phe	Asn	Lys	Val	Tyr	Ser	Ser	Met	Glu	Arg	Leu	Ser	Leu	Leu	Glu	Glu		
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Ser	Ser	His	Thr	Glu	Ser	Asp	Ser	Ser	Pro	Pro	Met	Thr	Val	Arg	Arg		
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 serine/threonine protein kinase (Mtssk, MAST205)
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<211> 1734

<212> PRT

<213> Mus musculus

<220>

<223> mouse microtubule associated testis specific
 serine/threonine protein kinase (Mtssk, MAST205)

<400> 32

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Gln	Asp	Asp	Cys	Lys	Leu	Arg	Arg	Gly	Ser	Leu	Ala	Ser	Ser	Leu	Ser	35	40	45	
Gly	Lys	Gln	Leu	Leu	Pro	Leu	Ser	Ser	Ser	Val	His	Ser	Ser	Val	Gly	50	55	60	
Gln	Val	Thr	Trp	Gln	Ser	Thr	Gly	Glu	Ala	Ser	Asn	Leu	Val	Arg	Met	65	70	75	80
Arg	Asn	Gln	Ser	Leu	Gly	Gln	Ser	Ala	Pro	Ser	Leu	Thr	Ala	Gly	Leu	85	90	95	
Lys	Glu	Leu	Ser	Leu	Pro	Arg	Arg	Gly	Ser	Phe	Cys	Arg	Thr	Ser	Asn	100	105	110	
Arg	Lys	Ser	Leu	Ile	Val	Thr	Ser	Ser	Thr	Ser	Pro	Thr	Leu	Pro	Arg	115	120	125	
Pro	His	Ser	Pro	Leu	His	Gly	His	Thr	Gly	Asn	Ser	Pro	Leu	Asp	Ser	130	135	140	
Pro	Arg	Asn	Phe	Ser	Pro	Asn	Ala	Pro	Ala	His	Phe	Ser	Phe	Val	Pro	145	150	155	160
Ala	Arg	Arg	Thr	Asp	Gly	Arg	Arg	Trp	Ser	Leu	Ala	Ser	Leu	Pro	Ser	165	170	175	
Ser	Gly	Tyr	Gly	Thr	Asn	Thr	Pro	Ser	Ser	Thr	Val	Ser	Ser	Ser	Cys	180	185	190	
Ser	Ser	Gln	Glu	Lys	Leu	His	Gln	Leu	Pro	Phe	Gln	Pro	Thr	Ala	Asp	195	200	205	
Glu	Leu	His	Phe	Leu	Thr	Lys	His	Phe	Ser	Thr	Glu	Asn	Val	Pro	Asp	210	215	220	
Glu	Glu	Gly	Arg	Arg	Ser	Pro	Arg	Met	Arg	Pro	Arg	Ser	Arg	Ser	Leu	225	230	235	240

Val Leu Ala Leu Glu Tyr Leu His Asn Tyr Gly Ile Val His Arg Asp
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Leu Lys Pro Asp Asn Leu Leu Ile Thr Ser Met Gly His Ile Lys Leu
580 585 590
Thr Asp Phe Gly Leu Ser Lys Ile Gly Leu Met Ser Leu Thr Thr Asn
595 600 605
Leu Tyr Glu Gly His Ile Glu Lys Asp Ala Arg Glu Phe Leu Asp Lys
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Gln Val Cys Gly Thr Pro Glu Tyr Ile Ala Pro Glu Val Ile Leu Arg
625 630 635 640
Gln Gly Tyr Gly Lys Pro Val Asp Trp Trp Ala Met Gly Ile Ile Leu
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Tyr Glu Phe Leu Val Gly Cys Val Pro Phe Phe Gly Asp Thr Pro Glu
660 665 670
Glu Leu Phe Gly Gln Val Ile Ser Asp Glu Ile Val Trp Pro Glu Gly
675 680 685
Asp Asp Ala Leu Pro Pro Asp Ala Gln Asp Leu Thr Ser Lys Leu Leu
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His Gln Asn Pro Leu Glu Arg Leu Gly Thr Ser Ser Ala Tyr Glu Val
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Lys Gln His Pro Phe Phe Met Gly Leu Asp Trp Thr Gly Leu Leu Arg
725 730 735
Gln Lys Ala Glu Phe Ile Pro Gln Leu Glu Ser Glu Asp Asp Thr Ser
740 745 750
Tyr Phe Asp Thr Arg Ser Glu Arg Tyr His His Val Asp Ser Glu Asp
755 760 765
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770 775 780
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Ser Glu Glu Lys Glu Asp His Ser Asp Gly Leu Ala Gly Leu Lys Gly
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Leu Ser Val Ser Glu Ser Ser His Thr Glu Ser Asp Ser Ser Pro Pro
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Met Thr Val Arg His Arg Cys Ser Gly Leu Pro Asp Gly Pro His Cys
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Gln	Ser	Ser	Arg	Cys	Cys	Pro	Ala	Leu	Glu	Thr	Arg	Gly	Arg	Gly	Thr
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Ala	Leu	Ser	Leu	Leu	Ile	Pro	Ser	Glu	His	His	Ala	Cys	Ser	Pro	Leu
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Pro	Pro	Ile	Ile	Ile	His	Arg	Ala	Gly	Lys	Lys	Tyr	Gly	Phe	Thr	Leu
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Gly	Leu	Val	His	Thr	Glu	Val	Val	Glu	Leu	Val	Leu	Lys	Ser	Gly	Asn
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 Gln Arg Gln Tyr Arg Ser Pro Arg Arg Lys Ser Ala Gly Ser Ile Pro
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 Leu Ser Pro Leu Ala His Thr Pro Ser Pro Pro Ala Thr Ala Ala Ser
 1285 1290 1295
 Pro Gln Arg Ser Pro Ser Pro Leu Ser Gly His Gly Ser Gln Ser Phe
 1300 1305 1310
 Pro Thr Lys Leu His Leu Ser Pro Pro Leu Gly Arg Gln Leu Ser Arg
 1315 1320 1325
 Pro Lys Ser Ala Glu Pro Pro Arg Ser Pro Leu Leu Lys Arg Val Gln
 1330 1335 1340
 Ser Ala Glu Lys Leu Ala Ala Ala Leu Ala Ala Glu Lys Lys Leu
 1345 1350 1355 1360
 Ala Pro Ser Arg Lys His Ser Leu Asp Leu Pro His Gly Glu Leu Lys
 1365 1370 1375
 Lys Glu Leu Thr Pro Arg Glu Ala Ser Pro Leu Glu Val Val Gly Thr
 1380 1385 1390
 Arg Ser Val Leu Ser Gly Lys Gly Pro Leu Pro Gly Lys Gly Val Leu
 1395 1400 1405
 Gln Pro Ala Pro Ser Arg Ala Leu Gly Thr Leu Arg Gln Asp Arg Ala
 1410 1415 1420
 Glu Arg Arg Glu Ser Leu Gln Lys Gln Glu Ala Ile Arg Glu Val Asp
 1425 1430 1435 1440
 Ser Ser Glu Asp Asp Thr Asp Glu Glu Pro Glu Asn Ser Gln Ala Thr
 1445 1450 1455
 Gln Glu Pro Arg Leu Ser Pro His Pro Glu Ala Ser His Asn Leu Leu
 1460 1465 1470
 Pro Lys Gly Ser Gly Glu Gly Thr Glu Glu Asp Thr Phe Leu His Arg
 1475 1480 1485
 Asp Leu Lys Lys Gln Gly Pro Val Leu Ser Gly Leu Val Thr Gly Ala
 1490 1495 1500
 Thr Leu Gly Ser Pro Arg Val Asp Val Pro Gly Leu Ser Pro Arg Lys
 1505 1510 1515 1520

Val Ser Arg Pro Gln Ala Phe Glu Glu Ala Thr Asn Pro Leu Gln Val
 1525 1530 1535
 Pro Ser Leu Ser Arg Ser Gly Pro Thr Ser Pro Thr Pro Ser Glu Gly
 1540 1545 1550
 Cys Trp Lys Ala Gln His Leu His Thr Gln Ala Leu Thr Ala Leu Cys
 1555 1560 1565
 Pro Ser Phe Ser Glu Leu Thr Pro Thr Gly Cys Ser Ala Ala Thr Ser
 1570 1575 1580
 Thr Ser Gly Lys Pro Gly Thr Trp Ser Trp Lys Phe Leu Ile Glu Gly
 1585 1590 1595 1600
 Pro Asp Arg Ala Ser Thr Asn Lys Thr Ile Thr Arg Lys Gly Glu Pro
 1605 1610 1615
 Ala Asn Ser Gln Asp Thr Asn Thr Thr Val Pro Asn Leu Leu Lys Asn
 1620 1625 1630
 Leu Ser Pro Glu Glu Glu Lys Pro Gln Pro Pro Ser Val Pro Gly Leu
 1635 1640 1645
 Thr His Pro Leu Leu Glu Val Pro Ser Gln Asn Trp Pro Trp Glu Ser
 1650 1655 1660
 Glu Cys Glu Gln Met Glu Lys Glu Glu Pro Ser Leu Ser Ile Thr Glu
 1665 1670 1675 1680
 Val Pro Asp Ser Ser Gly Asp Arg Arg Gln Asp Ile Pro Cys Arg Ala
 1685 1690 1695
 His Pro Leu Ser Pro Glu Thr Arg Pro Ser Leu Leu Trp Lys Ser Gln
 1700 1705 1710
 Glu Leu Gly Gly Gln Gln Asp His Gln Asp Leu Ala Leu Thr Ser Asp
 1715 1720 1725
 Glu Leu Leu Lys Gln Thr
 1730

<210> 33

<211> 3568

<212> DNA

<213> Homo sapiens

<220>

<223> human colon Kruppel-like factor (CKLF) cDNA

<220>

<221> CDS

<222> (537)..(1910)

<223> CKLF

<400> 33

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 gggcctcggg attcgcggcg gcgctgccaa tcaggcgatc gggccccgcc cccccggagt 180
 tgggtgaaat agaggcgggc gtcaagtgtc agtagtcgcg gggcaggtac gtgcgctcgc 240

ggttctctcg	cggaggtcgg	cgggtggcggg	agcgggctcc	ggagagcctg	agagcacggt	300
ggggcggggc	gggagaaaagt	ggccgcccgg	aggacgttgg	cgtttacgtg	tggaaagagcg	360
gaagagtttt	gcttttcgtg	cgcgccttcg	aaaactgcct	gccgctgtct	gaggagtcca	420
cccgaaacct	cccctcctcc	gccggcagcc	ccgcgctgag	ctcgccgacc	caagccagcg	480
tgggcgaggt	gggaagtgcg	ccgacccgcg	gcctggagct	gcgccccga	gtgcccattgg	540
ctacaagggt	gctgagcatg	agcgcgccgc	tgggaccggt	gccccagccg	ccggcgccgc	600
aggacgagcc	ggtgttcgcg	cagctcaagc	cggtgctggg	cgccgcgaat	ccggcccgcg	660
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ccgcgcccgc	gcaggccccg	cagcgggccc	agccgcccgc	caccggccccg	cggtgcctc	780
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ccccttgcac	atacacaatg	ccaagtcagt	ttcttccaca	acaggccact	tactttcccc	1440
cgtccccacc	aagctcagag	cctggaagtc	cagatagaca	agcagagatg	ctccagaatt	1500
taaccccacc	tccatcctat	gctgctacaa	ttgtctctaa	actggcaatt	cacaatccaa	1560
atttaccac	caccctgccca	gttaactcac	aaaacatcca	acctgtcaga	tacaatagaa	1620
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gccactaccg	gaagcacaca	ggcgccaagc	ccttccagtg	cggggtgtgc	aaccgcagct	1860
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tgtgacccgt	tccaggtccc	ctgggctccc	tcaaatagaca	gacctaaacta	ttcctgtgta	1980
aaaacaacaa	aaaacaaaca	aaagcaagaa	aaccacaact	aaaactggaa	atgtatatatt	2040
tgtatatattg	agaaaacagg	gaatacattg	tattaatacc	aaagtgtttg	gtcatttttaa	2100
gaatctggaa	tgcttgctgt	aatgtatatg	gctttactca	agcagatctc	atctcatgac	2160
aggcagccac	gtctcaacat	gggtaagggg	tgggggtgga	ggggagtggtg	tgcagcgttt	2220
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cagaagaaga	atggattgta	tgtcaagatt	ttacttgcca	ttgagtagtt	tttttcaata	2340
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gtgtggggtt	ttaaaaatta	tatactatat	gagttgccta	tatttgctat	tcaaaatttt	2460
gtaaatatgc	aatcagctt	tataggttta	ttacaagttt	tttaggattc	ttttggggaa	2520
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gattttgcat	gtaatacaca	gtgagacaca	gtaattttat	ctaaattaca	gtgcagttta	3000
gttaatctat	taatactgac	tcagtgtctg	cctttaaata	taaatagat	gttgaaaact	3060
taaggaagca	aatgctacat	atatgcaata	taaaatagta	atgtgatgct	gatgctgtta	3120
accaaagggc	agaataaata	agcaaaatgc	caaaaggggt	cttaattgaa	atgaaaattt	3180
aattttgttt	ttaaaatatt	gtttatcttt	atttatttgg	gggtaatat	gtaagttttt	3240
tagaagacaa	ttttcataac	ttgataaatt	atagttttgt	ttgttagaaa	agtagctctt	3300
aaaagatgta	aatagatgac	aaacgatgta	aataattttg	taagaggctt	caaaatgttt	3360
atacgtggaa	acacacctac	atgaaaagca	gaaatcggtt	gctgttttgc	ttctttttcc	3420
ctcttatttt	tgtattgtgg	tcatttccta	tgcaataaat	ggagcaaaca	gctgtatagt	3480
tgtagaattt	tttgagagaa	tgagatgttt	atatattaac	gacaattttt	ttttggaaaa	3540
taaaaagtgc	cctaaaagaa	aaaaaaaa				3568

<210> 34
 <211> 457
 <212> PRT
 <213> Homo sapiens

<220>
 <223> human colon Kruppel-like factor (CKLF)

<400> 34
 Met Ala Thr Arg Val Leu Ser Met Ser Ala Arg Leu Gly Pro Val Pro
 1 5 10 15
 Gln Pro Pro Ala Pro Gln Asp Glu Pro Val Phe Ala Gln Leu Lys Pro
 20 25 30
 Val Leu Gly Ala Ala Asn Pro Ala Arg Asp Ala Ala Leu Phe Pro Gly
 35 40 45
 Glu Glu Leu Lys His Ala His His Arg Pro Gln Ala Gln Pro Ala Pro
 50 55 60
 Ala Gln Ala Pro Gln Pro Ala Gln Pro Pro Ala Thr Gly Pro Arg Leu
 65 70 75 80
 Pro Pro Glu Asp Leu Val Gln Thr Arg Cys Glu Met Glu Lys Tyr Leu
 85 90 95
 Thr Pro Gln Leu Pro Pro Val Pro Ile Ile Pro Glu His Lys Lys Tyr
 100 105 110
 Arg Arg Asp Ser Ala Ser Val Val Asp Gln Phe Phe Thr Asp Thr Glu
 115 120 125
 Gly Leu Pro Tyr Ser Ile Asn Met Asn Val Phe Leu Pro Asp Ile Thr
 130 135 140
 His Leu Arg Thr Gly Leu Tyr Lys Ser Gln Arg Pro Cys Val Thr His
 145 150 155 160
 Ile Lys Thr Glu Pro Val Ala Ile Phe Ser His Gln Ser Glu Thr Thr
 165 170 175
 Ala Pro Pro Pro Ala Pro Thr Gln Ala Leu Pro Glu Phe Thr Ser Ile
 180 185 190
 Phe Ser Ser His Gln Thr Ala Ala Pro Glu Val Asn Asn Ile Phe Ile
 195 200 205
 Lys Gln Glu Leu Pro Thr Pro Asp Leu His Leu Ser Val Pro Thr Gln
 210 215 220
 Gln Gly His Leu Tyr Gln Leu Leu Asn Thr Pro Asp Leu Asp Met Pro
 225 230 235 240
 Ser Ser Thr Asn Gln Thr Ala Ala Met Asp Thr Leu Asn Val Ser Met
 245 250 255
 Ser Ala Ala Met Ala Gly Leu Asn Thr His Thr Ser Ala Val Pro Gln
 260 265 270

Thr Ala Val Lys Gln Phe Gln Gly Met Pro Pro Cys Thr Tyr Thr Met
 275 280 285
 Pro Ser Gln Phe Leu Pro Gln Gln Ala Thr Tyr Phe Pro Pro Ser Pro
 290 295 300
 Pro Ser Ser Glu Pro Gly Ser Pro Asp Arg Gln Ala Glu Met Leu Gln
 305 310 315 320
 Asn Leu Thr Pro Pro Pro Ser Tyr Ala Ala Thr Ile Ala Ser Lys Leu
 325 330 335
 Ala Ile His Asn Pro Asn Leu Pro Thr Thr Leu Pro Val Asn Ser Gln
 340 345 350
 Asn Ile Gln Pro Val Arg Tyr Asn Arg Arg Ser Asn Pro Asp Leu Glu
 355 360 365
 Lys Arg Arg Ile His Tyr Cys Asp Tyr Pro Gly Cys Thr Lys Val Tyr
 370 375 380
 Thr Lys Ser Ser His Leu Lys Ala His Leu Arg Thr His Thr Gly Glu
 385 390 395 400
 Lys Pro Tyr Lys Cys Thr Trp Glu Gly Cys Asp Trp Arg Phe Ala Arg
 405 410 415
 Ser Asp Glu Leu Thr Arg His Tyr Arg Lys His Thr Gly Ala Lys Pro
 420 425 430
 Phe Gln Cys Gly Val Cys Asn Arg Ser Phe Ser Arg Ser Asp His Leu
 435 440 445
 Ala Leu His Met Lys Arg His Gln Asn
 450 455

<210> 35

<211> 1591

<212> DNA

<213> Mus musculus

<220>

<223> mouse intestinal-enriched Kruppel-like factor
(IKLF, CKLF) cDNA

<220>

<221> CDS

<222> (167)..(1507)

<223> CKLF

<400> 35

ccgagccccag gagccccgat ctccgtgccc gccttcgtga gcgtctggct gccggccccag 60
 ggggtcccccg ccgcgggcccc ccgcgcgagtc cgccgtccccg tgccagccccg agcgagggtgg 120
 gatcgcgatc gctccgtgtc ccgctcccgat aatccccaga ccgtccatgc ccacgcgggt 180
 gctgaccatg agcgcgccgc tgggaccact gccccagccg ccggccgcgc aggccgagcc 240
 cgtgttcgcg cagctcaagc cgggtgctggg cgctgcgaac ccggccccgc acgcggcgct 300
 cttctccgga gacgatctga aacacgcgca ccaccacccg cctgcgcgcg cgccagccgc 360
 tggccccgca ctgccctcgg aggagctggt ccagacaaga tgtgaaatgg agaagtatct 420
 gaccctcag ctccctccag ttccgataat ttcagagcat aaaaagtata gacgagacag 480
 tgcctcagtg gtagaccagt tcttcactga cactgaaggc ataccttaca gcatcaacat 540


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gaacgtcttc ctccctgaca tcactcacct gagaactggc ctctacaaat cccagagacc 600
atgcgtaaca cagatcaaga cagaacctgt taccattttc agccaccaga gcgagtcgac 660
ggccccctct cctcctccgg cccccaccca ggctctcccc gagttcacta gtatcttcag 720
ctccccaccag accacagcgc caccacagga ggtgaacaat atcttcatca aacaagaact 780
tcctatacca gatcttcatc tctctgtccc tccccagcag ggccacctgt accagctgtt 840
gaatacaccg gatctagaca tgcccagttc gacaaaccag acggcagtaa tggacaccct 900
taatgtttct atggcaggcc ttaaccaca cccctctgct gttccacaga cgtaaatgaa 960
acagttccag ggcattgccc cttgcacgta caccatgcca agtcagtttc ttccacagca 1020
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tgagatgctg cagaatctca cccacctcc gtcctatgcc gctacaattg cttccaaact 1140
ggcgattcac aacccaaatt tacctgccac tctgccagtt aattcgccaa ctctcccacc 1200
tgtcagatac aacagaagga gtaaccgga tctggagaag cgacgtatcc acttctgcga 1260
ttataatggt tgcacaaaag tttatacaaa gtcgtctcac ttaaaagctc acctgaggac 1320
tcatacgggc gagaagccct acaagtgcac ctgggagggc tgcgactgga ggtttgcccg 1380
gtcggatgag ctgacccgcc actacaggaa gcacacgggc gccaaagccg tccagtgcac 1440
ggtgtgccaa cgcagcttct cccgtccga ccacctcgcg ctgcacatga agcgccacca 1500
gaactgagcg agcgaacgct gcgcccaccc gcctgacgcc ttgcagtcg ctttgccatc 1560
ctttaaaccc cagacctaac ttcataaaaa g 1591

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<210> 36

<211> 446

<212> PRT

<213> Mus musculus

<220>

<223> mouse intestinal-enriched Kruppel-like factor
(IKLF, CKLF)

<400> 36

Met Pro Thr Arg Val Leu Thr Met Ser Ala Arg Leu Gly Pro Leu Pro
1 5 10 15

Gln Pro Pro Ala Ala Gln Ala Glu Pro Val Phe Ala Gln Leu Lys Pro
20 25 30

Val Leu Gly Ala Ala Asn Pro Ala Arg Asp Ala Ala Leu Phe Ser Gly
35 40 45

Asp Asp Leu Lys His Ala His His His Pro Pro Ala Pro Pro Pro Ala
50 55 60

Ala Gly Pro Arg Leu Pro Ser Glu Glu Leu Val Gln Thr Arg Cys Glu
65 70 75 80

Met Glu Lys Tyr Leu Thr Pro Gln Leu Pro Pro Val Pro Ile Ile Ser
85 90 95

Glu His Lys Lys Tyr Arg Arg Asp Ser Ala Ser Val Val Asp Gln Phe
100 105 110

Phe Thr Asp Thr Glu Gly Ile Pro Tyr Ser Ile Asn Met Asn Val Phe
115 120 125

Leu Pro Asp Ile Thr His Leu Arg Thr Gly Leu Tyr Lys Ser Gln Arg
130 135 140

Pro Cys Val Thr Gln Ile Lys Thr Glu Pro Val Thr Ile Phe Ser His
145 150 155 160

Gln Ser Glu Ser Thr Ala Pro Pro Pro Pro Pro Ala Pro Thr Gln Ala
 165 170 175
 Leu Pro Glu Phe Thr Ser Ile Phe Ser Ser His Gln Thr Thr Ala Pro
 180 185 190
 Pro Gln Glu Val Asn Asn Ile Phe Ile Lys Gln Glu Leu Pro Ile Pro
 195 200 205
 Asp Leu His Leu Ser Val Pro Ser Gln Gln Gly His Leu Tyr Gln Leu
 210 215 220
 Leu Asn Thr Pro Asp Leu Asp Met Pro Ser Ser Thr Asn Gln Thr Ala
 225 230 235 240
 Val Met Asp Thr Leu Asn Val Ser Met Ala Gly Leu Asn Pro His Pro
 245 250 255
 Ser Ala Val Pro Gln Thr Ser Met Lys Gln Phe Gln Gly Met Pro Pro
 260 265 270
 Cys Thr Tyr Thr Met Pro Ser Gln Phe Leu Pro Gln Gln Ala Thr Tyr
 275 280 285
 Phe Pro Pro Ser Pro Pro Ser Ser Glu Pro Gly Ser Pro Asp Arg Gln
 290 295 300
 Ala Glu Met Leu Gln Asn Leu Thr Pro Pro Pro Ser Tyr Ala Ala Thr
 305 310 315 320
 Ile Ala Ser Lys Leu Ala Ile His Asn Pro Asn Leu Pro Ala Thr Leu
 325 330 335
 Pro Val Asn Ser Pro Thr Leu Pro Pro Val Arg Tyr Asn Arg Arg Ser
 340 345 350
 Asn Pro Asp Leu Glu Lys Arg Arg Ile His Phe Cys Asp Tyr Asn Gly
 355 360 365
 Cys Thr Lys Val Tyr Thr Lys Ser Ser His Leu Lys Ala His Leu Arg
 370 375 380
 Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Thr Trp Glu Gly Cys Asp
 385 390 395 400
 Trp Arg Phe Ala Arg Ser Asp Glu Leu Thr Arg His Tyr Arg Lys His
 405 410 415
 Thr Gly Ala Lys Pro Phe Gln Cys Met Val Cys Gln Arg Ser Phe Ser
 420 425 430
 Arg Ser Asp His Leu Ala Leu His Met Lys Arg His Gln Asn
 435 440 445

<210> 37
 <211> 877
 <212> DNA
 <213> Rattus norvegicus

<220>
 <223> rat Kruppel-like factor 5, intestinal (KLF5, CKLF)
 cDNA

<220>
 <221> CDS
 <222> (145)..(792)
 <223> CKLF

<400> 37
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 ctgttgaata cacctgatct agacatgccc agttcgacaa accagacagc agtcatggac 180
 acccttaatg tctctatggc tggccttaac tcacaccctt ctgctgtgcc acagacgtcc 240
 atgaaacagt tccagggcat gcctccttgc acgtacacca tgccgagtca gtttcttcca 300
 cagcaggcca cctacttttc cccatcacca ccgagctcag agcctggaag tcctgataga 360
 caagctgaga tgctccagaa tctgacccca cctccgtcct atgctgctac aattgcttcg 420
 aaactggcaa ttcacaatcc aaatttacct gccactctgc cagttaattc gccaaatatt 480
 caacctgtcc gataacaacag aaggagtaac ccggtatctgg agaagcgacg catccatttc 540
 tgtgattatg atggttgac aaaagtatt acaaagtcgt ctcatthaaa agctcacctg 600
 aggactcata cgggcgagaa gccctacaag tgcacctggg agggctgcga ctggagggtt 660
 gcccggtcgg acgagctgac ccgccactac aggaagcaca cgggtgccaa gccgttccag 720
 tgcgtggtgt gcaaccgcag cttctccgc tccgaccacc tggcgctgca catgaagcgc 780
 caccagaact gagcactgcg cacaaccggc tcgacgcctc gcagtcgcgt cgccatcctt 840
 taaaccgcag acctaacttc atataaaaaa aaaaaaa 877

<210> 38
 <211> 215
 <212> PRT
 <213> Rattus norvegicus

<220>
 <223> rat Kruppel-like factor 5, intestinal (KLF5, CKLF)

<400> 38
 Met Pro Ser Ser Thr Asn Gln Thr Ala Val Met Asp Thr Leu Asn Val
 1 5 10 15
 Ser Met Ala Gly Leu Asn Ser His Pro Ser Ala Val Pro Gln Thr Ser
 20 25 30
 Met Lys Gln Phe Gln Gly Met Pro Pro Cys Thr Tyr Thr Met Pro Ser
 35 40 45
 Gln Phe Leu Pro Gln Gln Ala Thr Tyr Phe Pro Pro Ser Pro Pro Ser
 50 55 60
 Ser Glu Pro Gly Ser Pro Asp Arg Gln Ala Glu Met Leu Gln Asn Leu
 65 70 75 80
 Thr Pro Pro Pro Ser Tyr Ala Ala Thr Ile Ala Ser Lys Leu Ala Ile
 85 90 95
 His Asn Pro Asn Leu Pro Ala Thr Leu Pro Val Asn Ser Pro Asn Ile
 100 105 110
 Gln Pro Val Arg Tyr Asn Arg Arg Ser Asn Pro Asp Leu Glu Lys Arg
 115 120 125

Arg	Ile	His	Phe	Cys	Asp	Tyr	Asp	Gly	Cys	Thr	Lys	Val	Tyr	Thr	Lys
130						135					140				
Ser	Ser	His	Leu	Lys	Ala	His	Leu	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro
145					150					155					160
Tyr	Lys	Cys	Thr	Trp	Glu	Gly	Cys	Asp	Trp	Arg	Phe	Ala	Arg	Ser	Asp
				165					170					175	
Glu	Leu	Thr	Arg	His	Tyr	Arg	Lys	His	Thr	Gly	Ala	Lys	Pro	Phe	Gln
			180					185					190		
Cys	Val	Val	Cys	Asn	Arg	Ser	Phe	Ser	Arg	Ser	Asp	His	Leu	Ala	Leu
		195					200					205			
His	Met	Lys	Arg	His	Gln	Asn									
210						215									

<210> 39
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:MAST205b PCR
 Forward primer 110F

<400> 39
 acagcagtcc tggcactcct t 21

<210> 40
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:MAST205b PCR
 Reverse primer 174R

<400> 40
 gcgggttactt gtccgacaac tc 22

<210> 41
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:MAST205b PCR
 Taqman Probe Probe133

<400> 41
 tccagccgcc cactgccg 18

<210> 42
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:MAST205 PCR
 Forward primer 717F

 <400> 42
 ttggacagtc tgcaccttct ctta 24

 <210> 43
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:MAST205 PCR
 Reverse primer 801R

 <400> 43
 cggttacttg tccgacaaaa gc 22

 <210> 44
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:MAST205 PCR
 Taqman Probe Probe745

 <400> 44
 tggcctgaag gacttgagcc ttccagccca ctgccg 36

 <210> 45
 <211> 6
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:hexahistidine
 (His) affinity tag

 <400> 45
 His His His His His His
 1 5

 <210> 46
 <211> 200
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:poly-Gly
 flexible linker

<220>
 <221> MOD_RES
 <222> (6)..(200)
 <223> Gly residues from position 6 to 200 may be present
 or absent

<400> 46
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 1 5 10 15
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 20 25 30
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 35 40 45
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 50 55 60
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 65 70 75 80
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 85 90 95
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 100 105 110
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 115 120 125
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 130 135 140
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 145 150 155 160
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 165 170 175
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 180 185 190
 Gly Gly Gly Gly Gly Gly Gly
 195 200